THAT WHICH IS CLAIMED IS:

1. A method for routing message data from a source node to a destination node in a mobile ad hoc network comprising a plurality of intermediate mobile nodes between the source node and the destination node, and a plurality of wireless communication links connecting the nodes together, the method comprising:

prioritizing the message data according to a type-of-service (ToS);

discovering routes from the source node to the destination node;

ranking the discovered routes according to quality of service (QoS); and

distributing message data to the destination node on the discovered routes based upon the ToS of the message data and the QoS of the discovered routes, including

distributing message data having a same ToS on multiple discovered routes, and

distributing message data having higher priority ToS on higher ranked discovered routes.

2. A method according to Claim 1 wherein ranking the discovered routes according to QoS includes determining whether intermediate mobile nodes on discovered routes between the source node and the destination node are service sensitive nodes.

3. A method according to Claim 2 wherein service sensitive nodes comprise power critical nodes.

4. A method according to Claim 2 wherein service sensitive nodes comprise traffic bottleneck nodes.

5. A method according to Claim 1 wherein ranking the discovered routes according to QoS includes determining an end-to-end delay of each discovered route.

6. A method according to Claim 5 wherein ranking the discovered routes according to QoS includes measuring at least one of link delay, node capacity, node available capacity, and link reliability.

7. A method according to Claim 1 wherein ranking the discovered routes according to QoS comprises storing route entries in a route cache, each route entry corresponding to one of the discovered routes.

8. A method according to Claim 1 wherein message data having higher priority ToS comprises delay sensitive message data and large volume message data.

9. A method for routing message data from a source node to a destination node in a mobile ad hoc network comprising a plurality of intermediate mobile nodes between the source node and the destination node, and a plurality of wireless communication links connecting the nodes together, the method comprising:

prioritizing the message data according to a type-of-service (ToS);

ranking routes from the source node to the destination node according to an end-to-end delay metric;

determining whether intermediate mobile nodes on routes between the source node and the destination node are service sensitive nodes; and

distributing message data to the destination node on the routes based upon the ToS of the message data, the end-to-end delay metric, and the service sensitive node determination.

10. A method according to Claim 9 wherein distributing message data further comprises distributing message data having a same ToS on multiple routes.

11. A method according to Claim 9 wherein distributing message data further comprises distributing message data having higher priority ToS on higher ranked routes.

12. A method according to Claim 11 wherein message data having higher priority ToS comprises delay sensitive message data and large volume message data.

13. A method according to Claim 9 wherein service sensitive nodes comprise power critical nodes.

14. A method according to Claim 9 wherein service sensitive nodes comprise traffic bottleneck nodes.

15. A method according to Claim 9 wherein the end-to-end delay metric is based upon at least one of

link delay, node capacity, node available capacity, and link reliability.

16. A mobile node for use in a mobile ad hoc network defined by a plurality of mobile nodes and a plurality of wireless communication links connecting the plurality of mobile nodes together, the mobile node comprising:

a communications device to wirelessly communicate with other nodes of the plurality of nodes via the wireless communication links; and

a controller to route communications via the communications device, the communications comprising message data prioritized according to a type-of-service (ToS), the controller comprising

a route discovery unit to discover routing to a destination node,

a route ranking unit to rank discovered routes according to quality of service (QoS), and

a message data distribution unit to distribute the message data to the destination node along a plurality of the discovered routes based upon the ToS of the message data and the QoS of the discovered routes so that message data having a same ToS is distributed on multiple discovered routes, and message data having higher priority ToS is distributed on higher ranked discovered routes.

17. A mobile node according to Claim 16 wherein the route ranking unit determines whether

19

intermediate mobile nodes on discovered routes between
the source node and the destination node are service
sensitive nodes.

18.   A mobile node according to Claim 17
wherein service sensitive nodes comprise power critical
nodes.

19.   A mobile node according to Claim 17
wherein service sensitive nodes comprise traffic
bottleneck nodes.

20.   A mobile node according to Claim 16
wherein the route ranking unit determines an end-to-end
delay of each discovered route.

21.   A mobile node according to Claim 16
wherein the route ranking unit measures at least one of
link delay, node capacity, node available capacity, and
link reliability.

22.   A mobile node according to Claim 16
wherein the route ranking unit includes a route cache to
store route entries corresponding to one of the
discovered routes.

23.   A mobile node according to Claim 16
wherein message data having higher priority ToS comprises
delay sensitive message data and large volume message
data.